February 24, 2004

D.T.E. 02-38-B

Investigation by the Department of Telecommunications and Energy on its own motion into Distributed Generation.

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ORDER ON MODEL DISTRIBUTED GENERATION INTERCONNECTION STANDARDS AND PROCEDURES TARIFF

I. INTRODUCTION

A. Procedural History

On June 13, 2002, the Department of Telecommunications and Energy ("Department") issued an Order opening a Notice of Inquiry into distributed generation ("DG").[1] Distributed Generation NOI, D.T.E. 02-38 (2002). The Department requested comments on: (1) whether current distribution company interconnection standards and procedures in Massachusetts act as an undue barrier to the installation of DG; (2) whether current distribution company standby service tariffs act as a undue barrier to the installation of DG; (3) what the role of DG is with respect to the provision of service by Massachusetts distribution companies; and (4) what other issues are appropriate for the Department to consider. Id. at 5. Initial comments were filed on August 1, 2002, reply comments were filed on August 15, 2002, and the Department conducted a public hearing on August 21, 2002.

On October 3, 2002, pursuant to 220 C.M.R. § 11.04(4), and in response to the comments, the Department directed Fitchburg Gas and Electric Light Company ("Fitchburg"); Massachusetts Electric Company and Nantucket Electric Company (together, "MECo"); Boston Edison Company, Cambridge Electric Light Company, and Commonwealth Electric

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[1] Distributed generation is "a generation facility or renewable energy facility connected directly to distribution facilities or to retail customer facilities which alleviate or avoid transmission or distribution constraints or the installation of new transmission facilities or distribution facilities." G. L. c. 164, § 1. A "generation facility" means plant or equipment that is used to produce, manufacture, or otherwise generate electricity and which is not a transmission facility. G.L. c. 164, § 1; 220 C.M.R. § 11.02.

Company, (together,"NSTAR"), and Western Massachusetts Electric Company ("WMECo") (collectively, "Distribution Companies") to commence a collaborative process to propose, for Department approval, interconnection standards, policies, and procedures for DG that would be uniformly applicable to all the Distribution Companies. Distributed Generation NOI, D.T.E. 02-38A at 3-4 (Order Establishing a Distributed Generation Forum) (2002).

Consequently, the Distribution Companies, DG providers, government and quasi-governmental agencies, consumers, and public interest groups formed the Massachusetts Distributed Generation Interconnection Collaborative ("Collaborative").[2] On March 3, 2003, the Collaborative submitted a report, "Proposed Uniform Standards for Interconnecting Distributed Generation in Massachusetts" ("Report"). The Collaborative also agreed that the

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[2] The members and participants in the Collaborative were: Aegis Energy Services; Associated Industries of Massachusetts; the Attorney General of the Commonwealth; Bill Feero; Cape Light Compact; Commonwealth of Massachusetts Division of Energy Resources; The E Cubed Company, LLC; Fitchburg; ISO New England, Inc.; Ingersoll-Rand, Inc.; KeySpan Energy Delivery (Boston Gas Company, Colonial Gas Company and Essex Gas Company each d/b/a KeySpan Energy Delivery New England); Mass Technology Park Corporation d/b/a Massachusetts Technology Collaborative; MECo; Massachusetts Energy Consumers Alliance; MeadWestvaco Corporation; National Association of Energy Service Companies; Navigant Consulting, Inc.; Northeast Energy and Commerce Association; Northeast Combined Heat and Power Initiative; NSTAR; Plug Power, Inc.; Raab Associates; RealEnergy, Inc.; Solar Energy Business Association of New England; Solutia; Trigen Energy; Union of Concerned Scientists, et al. (Conservation Law Foundation, Massachusetts Public Interest Research Group); United Technologies Corporation; WMECo; and Wyeth BioPharma (Report at 52-56).

substantive agreements in the Report be codified in a model interconnection standards tariff that would be consistent for all utilities, to be filed at a later date.[3]

On May 15, 2003, the Collaborative filed a document entitled, "Tariff to Accompany Proposed Uniform Standards for Interconnecting Distributed Generation in Massachusetts" ("Model Interconnection Tariff").[4] On May 19, 2003, the Department issued a notice inviting all interested persons to file written comments on the Report and the Model Interconnection Tariff. Comments were filed by Aegis Energy Services ("AES"); Associated Industries of Massachusetts ("AIM"); Fitchburg; Interstate Renewable Energy Council ("IREC"); KeySpan Energy Delivery (Boston Gas Company, Colonial Gas Company and Essex Gas Company each d/b/a KeySpan Energy Delivery New England) ("KeySpan"); MECo; MeadWestvaco Corporation ("MeadWestvaco"); National Energy Marketers Association ("NEMA"); NSTAR; RealEnergy, Inc., jointly with Turbosteam Corporation, Ingersoll-Rand, Encorp, Northeast Combined Heat and Power Initiative and Amerada Hess (together, the "RE Commenters"); United Technologies Corporation ("UTC"); and WMECo.

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[3] The Massachusetts Technology Collaborative provided the funding for mediation and technical support for the Collaborative (Collaborative May 15, 2003 Letter). Jonathan Raab, President of Raab Associates, Ltd., served as the mediator, and Suzanne Orenstein from Navigant Consulting, Inc. provided technical consulting (id.).

[4] The Model Interconnection Tariff incorporates the following exhibits (Exhibits A-G): Interconnection Service Agreement; Third Party Owner Agreement; Simplified Process Application; Expedited/Standard Process Application; Supplemental Review Agreement; Impact Study Agreement; and Detailed Study Agreement (Model Interconnection Tariff at 47-74).

B. Proposal for Implementing the Model Interconnection Tariff

The Collaborative stated that it reached consensus on all but four of the interconnection issues: (1) certain cost allocation and adjustment procedures; (2) applicability of the tariff's Interconnection Service Agreement in certain circumstances; (3) timelines; and (4) applicability to Qualifying Facilities ("QFs") (Collaborative May 15, 2003 Letter; Model Interconnection Tariff at 11, 18, 33, 54, 71, 74).

In terms of implementing the Model Interconnection Tariff, the Collaborative recommended that the Department issue an Interim Order which would approve the Report and Model Interconnection Tariff, and authorize the Collaborative to undertake a two-year review process (Report at 4, 25-28; Collaborative May 15, 2003 Letter). The Collaborative noted that because there is limited DG experience relating to screens, timelines, and cost estimates, its recommendations are based on the condition that the proposed interconnection process be further developed through an ongoing Collaborative (Report at 25). Specifically, the Collaborative asserted that the stakeholders had agreed to the recommended interconnection process on the condition that the efficiency and effectiveness of the interconnection process be assessed in a standardized manner, so as to develop the most reliable, safe and efficient system for all stakeholders (id.). The Collaborative explained that for two years, on a quarterly basis, it would track information relating to, but not limited to, project specific information, screening process, impact criteria, national standards, review processes, and fees (id. at 25-28). The Collaborative would submit an annual report to the Department consisting of any recommended changes for streamlining the interconnection process (id.). At the end of

the two-year period, the Collaborative would seek a final order from the Department regarding the interconnection standards (Report at 4, 25-28; Collaborative May 15, 2003 Letter).

In addition, the Collaborative requested that the Department: (1) consider and incorporate probable impacts of future phases of this proceeding on the Model Interconnection Tariff; (2) address in the next phase of this proceeding the payments for ongoing operations and maintenance ("O&M") costs of system modification equipment installed as a result of interconnection; and (3) determine who should own the meter (Collaborative May 15, 2003 Letter). Finally, the Collaborative asserted that significant changes to any portion of the Report or Model Interconnection Tariff may lead stakeholders to review their positions on other portions or on the Report and Model Interconnection Tariff as a whole (id.).

II. THE MODEL INTERCONNECTION TARIFF AND REPORT

A. Introduction

The Department appreciates the time, careful consideration, and the comprehensive effort undertaken by the Collaborative in developing the Model Interconnection Tariff and Report.[5] The Department would like to thank the Massachusetts Technology Collaborative for providing mediation and technical support. The Department recognizes that the Model Interconnection Tariff represents an agreement among diverse interests in this proceeding: DG providers, consumers, public-interest groups, governmental and quasi-governmental agencies, and the Distribution Companies. The Department has reviewed the Model Interconnection

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[5] Over the course of four months, the Collaborative held eleven meetings (Report at 2). In addition, break-out working groups met concurrently to develop specific detailed proposals (id.).

Tariff to determine whether it prescribes standards and practices that recognize legitimate safety and reliability concerns associated with interconnection, but also that do not unduly inhibit the installation of DG. D.T.E. 02-38, at 2. In addition, the Department has reviewed the Model Interconnection Tariff to determine whether it is consistent with applicable law, Department precedent, and the public interest. See Street Restoration Standards, D.T.E. 98-22, at 4 (1999); Berkshire Gas Company, D.P.U. 96-92, at 8 (1996); Boston Gas Company, D.P.U 96-50 (Phase I) at 7 (1996); Massachusetts Electric Company, D.P.U. 96-59, at 7 (1996).

B. Overview of the Report and Model Interconnection Tariff

The Report includes a detailed process narrative, timeline, fee structure, alternative dispute resolution process, interconnection requirements, a mechanism for tracking interconnection experience over time, and an application form (Report at 5-14). The Collaborative explained that the Model Interconnection Tariff is consistent with the recommendations presented in the Report (Collaborative May 15, 2003 Letter). The Model Interconnection Tariff codified the process and requirements for a customer to connect a power-generating facility to a company's electric power system ("EPS") (Model Interconnection Tariff at 1).[6]

Specifically, the Model Interconnection Tariff's technical guidelines consist of an overview of the process, interconnection requirements, costs and the allocation of such

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[6] The Model Interconnection Tariff would not apply to a facility that does not operate in parallel to a company's EPS (Model Interconnection Tariff at 1).

interconnection costs, operating requirements, disconnection, metering, monitoring and communication, dispute resolution, a confidentially statement, and insurance requirements. In addition, the Model Interconnection Tariff provides a series of application and agreement templates (see Model Interconnection Tariff, Exhs. A-G).

The Model Interconnection Tariff provides three paths for interconnecting the customer's facility (Model Interconnection Tariff at 7-20). First, the "Simplified Process" applies to qualified inverter-based facilities with a power rating of ten kilowatts ("KW") or less, on a radial system or spot network (under certain conditions and using a UL 1741 certified inverter) (id.).[7,8] In addition, the facility's capacity must be less than 7.5 percent of the circuit's annual peak load (id.). The interconnection for the Simplified Process timeline is a maximum of 15 business days, and there is no fee required for radial interconnection (id.).[9] Second, the "Expedited Process" applies to interconnection on a radial system for facilities that

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[7] Qualified inverter-based facilities on spot networks may use the Simplified Process when the aggregate facility capacity is less than one-fifteenth of the customer's minimum load (Model Interconnection Tariff at 7).

[8] The Collaborative noted that interconnecting DG to secondary networks poses certain additional challenges; therefore, it agreed to: (1) allow certain small inverter-based facilities on spot networks to use the Simplified Process; (2) set a goal to seek expeditious and cost-effective approaches for interconnecting on a spot and area network; (3) form a technical group under the umbrella of the ongoing Collaborative to study network interconnection experience and procedures; and (4) provide regulators, customers, DG providers, utilities, and others with a clear explanation of the opportunities, challenges, and potential solutions posed by interconnecting to networks. (Report at 18).

[9] The application fee for the Simplified Process on a spot network is $100 for three KW or less and $300 for facilities up to and including ten KW (Model Interconnection Tariff at 12).

pass pre-specified screens (id.).[10] The interconnection timeline for the Expedited Process is 40 to 60 business days[11] and the application fee is $3 per KW with a minimum fee of $300 and a maximum of $2,500 (id.).[12] When supplemental or additional review is required, the applicant would pay for up to 10 engineering hours, at $125 per hour with a maximum of $1,250; if necessary, a witness test fee is applied, at up to $300 plus travel time costs (id.). Third, the "Standard Process" applies to either the radial or network system for all facilities not qualifying for either the Simplified or Expedited Processes (id.). The interconnection timeline for the Standard Process is 125 to 150 business days,[13] and the application fee is the same as for the Expedited Process, plus the cost of applicable studies and witness tests (id.).

C. Unresolved Tariff Language

In certain areas where the Collaborative could not reach a consensus, the Model Interconnection Tariff contains proposed alternative language. These language differences concern: (1) the degree of responsibility regarding potential cost overruns stemming from

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[10] The screening process includes the following criteria: facility certification, starting voltage drop, fault current contribution, service configuration, and transient stability (Model Interconnection Tariff at 13).

[11] The maximum time is 40 days where no Supplemental Review is needed and 60 days when a Supplemental Review is required (Model Interconnection Tariff at 11).

[12] The Expedited Process anticipates use of the following standards: (1) California and New York adopted certification rules, (2) Underwriters Laboratories, Inc. standard UL 1741, and (3) the Institute of Electrical and Electronic Engineers P1547 Draft Standards (Report at 10).

[13] The maximum time is 125 days when the customer goes directly to the Standard Process, and 150 days when the customer goes from the Expedited Process to the Standard Process (Model Interconnection Tariff at 11).

interconnection studies; (2) the scope of the interconnection studies and system modifications for which the interconnecting customer must bear the cost; (3) the status of the Interconnection Service Agreement should the Interconnection Tariff be amended; and (4) timelines (Model Interconnection Tariff at 11, 18, 33, 54, 71, 74). We will address the first two issues in the Cost Allocation and Adjustment section below, then address the issues of the Interconnection Service Agreement, and the proposed timelines.

1. Cost Allocation and Adjustment

a. Model Interconnection Tariff

With respect to the responsibility for review and study costs, the Collaborative presented alternative language representing the stakeholders' respective positions. Throughout this section, differences between the alternatives are underlined.

> **DG Group:** The Interconnecting Customer shall be responsible for the reasonably incurred costs of the review by the Company and any interconnection studies conducted as defined by Table 2 ("Fee Schedule") of Section 3 of this Tariff solely to determine the requirements of interconnecting a Facility with the Company EPS.
>
> -or-
>
> **Utility Group:** The Interconnecting Customer shall be responsible for the reasonably incurred costs of the review by the Company and any interconnection studies conducted as defined by Table 2 ("Fee Schedule") of Section 3 of this Tariff to determine the requirements of interconnecting a Facility with the Company EPS.

(Model Interconnection Tariff at 33, ¶ 5.1).

With respect to the responsibility for costs for system modification, the Collaborative presented alternative language representing the stakeholders' respective positions.

> **DG Group:** The Interconnecting Customer shall only pay for that portion of the interconnection costs resulting solely from the System Modifications required to allow for safe, reliable parallel operation of the Facility with the Company EPS.
>
> -or-
>
> **Utility Group:** The Interconnecting Customer shall only pay for the interconnection costs required to allow for safe, reliable parallel operation of the Facility with the Company EPS.

(Model Interconnection Tariff at 33, ¶ 5.4).

In addition, the Model Interconnection Tariff's "Interconnection Service Agreement," "Impact Study Agreement" and "Detailed Study Agreement" contain alternative proposals relative to costs and fees and cost increases related to impact studies. The language in the agreements reads as follows.

> **DG Group:** All costs and fees provided by the Company to Interconnecting Customer as a result of a study conducted by the Company shall be "guaranteed not-to-exceed by greater than 10% costs." The Company will, in writing, advise the Interconnecting Customer in advance of any cost increase for work to be performed up to a total amount of increase of 10% only. All costs that exceed the 10% increase cap will be borne solely by the Company. Any such changes to the Company's costs for the work shall be subject to the Interconnecting Customer's consent. The Interconnecting Customer shall, within thirty (30) days of the Company's notice of increase, either authorize such increase and make payment in the amount set forth in such notice, or the Company will suspend the work and the corresponding agreement will terminate.
>
> -or-
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> **Utility Group:** The Company will, in writing, advise the Interconnecting Customer in advance of any cost increase for work to be performed up to a total amount of increase of 10% or more. Any such changes to the Company's costs for the work shall be subject to the Interconnecting Customer's consent. The Interconnecting Customer

> shall, within thirty (30) days of the Company's notice of increase, either authorize such increase and make payment in the amount set forth in such notice, or the Company will suspend the work and the corresponding agreement will terminate.

(Model Interconnection Tariff at 48, at ¶ 5.1, and 71-72, 74-75, at ¶ 7 (Exh. A, Interconnection Service Agreement; Exh. F, Impact Study Agreement; Exh. G, Detailed Study Agreement)).

b. Comments

The Distribution Companies state that DG customers should be responsible for the actual cost of necessary studies, required system modifications, and facilities constructed on their behalf (Fitchburg at 4; MECo at 4-5; NSTAR at 5-7; WMECo at 6; AIM at 1). NSTAR states that basing cost recovery on cost causation sends a direct and appropriate economic price signal to customers, resulting in the efficient use of societal resources (NSTAR at 6, citing Electric Industry Restructuring, D.P.U. 96-100, at 51 (1996); Gas Unbundling, D.T.E. 98-32-B at 31 (1999); Boston Gas Company, D.P.U. 93-60, at 133-134 (1996)). The Distribution Companies argue that if an upgrade was not planned and documented, but performed solely as the result of the interconnection, the cost of the upgrade should be the responsibility of the connecting customer consistent with Department precedent on cost causation (Fitchburg at 4; MECo at 5; NSTAR at ; WMECo at 6). The Distribution Companies argue their proposed language in ¶ 5.1 of the Model Interconnection Tariff is consistent with Bertone v. Department of Public Utilities, 411 Mass. 536, 546, n.11 (1992), where the Supreme Judicial Court rejected arguments by customers protesting hook-up charges as discriminatory because they subsidize future users of the system who would benefit from their hook-up payments to the utility (MECo at 5; NSTAR at 8). NSTAR argues that the

absence of a "not to exceed" pricing system would not leave DG customers exposed to unreasonable costs because the Model Interconnection Tariff provides for a detailed dispute resolution process as a "backstop" to the reasonableness of all costs to interconnect DG facilities (NSTAR at 6-7).

The RE Group states that the Qualifying Facilities and On-Site Generating Facilities Regulations, 220 C.M.R. §§ 8.00 et seq. ("QF Regulations")[14] provide that QFs or on-site generators reimburse the Distribution Company for "costs solely from interconnecting the power production equipment with the Distribution Company's system" (RE Group at 14, citing, 220 C.M.R. § 8.04(7)). The RE Group argues that the QF Regulations allow QFs to amortize the costs of paying for interconnection costs over time (RE Group at 15, citing, 220 C.M.R. § 8.04(7)(c)).

MeadWestvaco argues that a "not to exceed" price would require the utility to be more responsible and efficient because the Distribution Companies might estimate a high cost, which could deter project developers, even if the final cost is much below the estimate (MeadWestvaco at 8-9). MeadWestvaco requests that incremental costs of interconnection be only the incremental costs required for the applicant to connect to the distribution system, consistent with 220 C.M.R. § 8.04(7) (MeadWestvaco at 9).[15]

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[14] These regulations are entitled, "Sales of Electricity by Qualifying Facilities and On-Site Generating Facilities to Distribution Companies, and Sales of Electricity by Distribution Companies to QFs and On-Site Generating Facilities." See QF and On-Site Generating Facility Rulemaking, D.T.E. 99-38 (1999).

[15] "The Qualifying Facility or On-Site Generating Facility shall reimburse the Distribution (continued…)

c. Analysis and Findings

With respect to the scope of the interconnection studies and system modifications for which the interconnecting customer must bear the cost, the language proposed by the DG Group indicates a concern that the Distribution Companies would include distribution system upgrade costs unrelated to the DG interconnection project costs. Although it is unlikely that the Distribution Companies would charge DG customers for previously scheduled or otherwise unrelated distribution system upgrades, the language proposed by the DG Group would ensure that costs solely related to interconnection are charged to the interconnecting customer. Accordingly, the Department will incorporate the language proposed by the DG Group into the final version of the Interconnection Tariff.[16] The language of the Model Interconnection Tariff at 33, ¶ 5.1, shall read as follows:

> The Interconnecting Customer shall be responsible for the reasonably incurred costs of the review by the Company and any interconnection studies conducted as defined by Table 2 ("Fee Schedules") of Section 3 of this Tariff solely to determine the requirements of interconnecting a Facility with the Company EPS.

The Language of the Model Interconnection Tariff at 33, ¶ 5.4, shall read as follows:

> The Interconnecting Customer shall only pay for that portion of the interconnection costs resulting solely from the System Modifications required to allow for safe, reliable parallel operation of the Facility with the Company EPS.

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[15] (…continued)
Company for the incremental cost, i.e., the costs resulting solely from interconnecting the power production equipment with the Distribution Company's system, including meter installation where applicable. . . ." 220 C.M.R. § 8.04(7).

[16] The Department notes that the word "solely" in the final language represents those incremental costs that a Distribution Company incurs in order to perform an interconnection.

The DG Group's proposed language would establish a ten percent cost threshold, where, if the Distribution Company's cost estimate is greater than ten percent, the Distribution Company would be entirely responsible for any overage greater than ten percent. The Department believes that such language would create an incentive for the Distribution Companies to make good faith estimates for interconnection costs.

The Department's final language incorporates the language of the DG Group, with two modifications.[17] The final language of the Model Interconnection Tariff at 48, ¶ 5.1, 71-72,¶ 7 and 74-75, ¶ 7 (Exh. A, Interconnection Service Agreement; Exh. F, Impact Study Agreement, ¶ 7; and Exh. G, Detailed Study Agreement, ¶ 7) shall read as follows:

> The Company will, in writing, advise the Interconnecting Customer in advance of any cost increase for work to be performed up to a total amount of increase of 10% only. All costs that exceed the 10% increase cap will be borne solely by the Company. Any such changes to the Company's costs for the work shall be subject to the Interconnecting Customer's consent. The Interconnecting Customer shall, within thirty (30) days of the Company's notice of increase, authorize such increase and make payment in the amount up to the 10% increase cap, or the Company will suspend the work and the corresponding agreement will terminate.

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[17] The DG Group's proposed first sentence that, "[a]ll costs and fees provided by the Company to Interconnecting Customer as a result of a study conducted by the Company shall be guaranteed not-to-exceed by greater than 10% costs," is unnecessary because the costs for the interconnection studies and all fees associated with interconnection are already capped by the language contained within the Model Interconnection Tariff (see Model Interconnection Tariff at 19, Table 2). In addition, the language proposed by the DG Group is not consistent with language found elsewhere in this section, and could be misconstrued to hold the Interconnecting Customer responsible to pay an overage amount greater than ten percent before the Distribution Company can continue interconnection work. Since prior language in this section holds the Distribution Companies solely responsible for any overages greater than ten percent, the proposed DG Group language has been modified for inclusion in the final language of the Model Interconnection Tariff.

2. Interconnection Service Agreement

a. Model Interconnection Tariff

The Collaborative was unable to reach agreement on whether an existing Interconnection Agreement should control in the event that there is a conflict with the requirements of the Interconnection Tariff (i.e., should changes to the Interconnection Tariff occur after the Interconnection Agreement was executed) (Collaborative May 15, 2003 Letter). The Collaborative proposed two versions for Department consideration.

> **DG Group:** In the event of a conflict between this Agreement and the terms of the Interconnection Tariff or any other tariff, Exhibit or Attachment incorporated by reference, the terms of this Agreement shall control.
>
> -or-
>
> **Utility Group:** In the event of a conflict between this Agreement, the Interconnection Tariff, or the terms of any other tariff, Exhibit or Attachment incorporated by reference, the terms of the Interconnection Tariff, as the same may be amended from time to time, shall control

(Model Interconnection Tariff at 54, Exh. A ¶ 20).[18]

b. Comments

The Distribution Companies propose that, consistent with general regulatory practice, the Model Interconnection Tariff is the controlling document, and the Interconnection Service Agreement is not severable from the tariff (MECo at 4; NSTAR at 11; WMECo at 4-5). MECo states that the Model Interconnection Tariff provides that the Interconnection Service Agreement "is entered into pursuant to the [Model] Interconnection Tariff" (MECo comments

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[18] The Interconnection Agreement is attached to the Model Interconnection Tariff as Exhibit A (Model Interconnection Tariff at 47-55).

at 4, citing Model Interconnection Tariff at 54, Exh. A ¶ 19). NSTAR states that although the Interconnection Service Agreement takes the form of a contract, it is in fact a standard form contract whose purpose is to implement the Model Interconnection Tariff (NSTAR at 12).

DG stakeholders stated that once approved, installed, and commissioned, existing DG installations should be grandfathered against any subsequent rule changes unless the Department concludes that the changes warrant retroactive application for safety or reliability reasons (RE Group at 16; UTC at 4; NEMA at 5; MeadWestvaco at 12-13). The RE Group argues that DG owners could face a lost investment as a result of future rule changes which undermine the basic agreement supporting their investments (RealEnergy, et al. at 17).

c. Analysis and Findings

Gas and electric companies under the Department's jurisdiction may provide service to customers under two arrangements: (1) by tariff, or (2) by special contract. G.L. c. 164, § 94. A tariff is a public document setting forth a description of the utility's services being offered, the availability of services offered, rates and charges with respect to those services, and governing rules, regulations and practices relating to those services. International Tel. and Tel. Co. v. United Tel. Co. Of Florida, 453, F. Supp. 352, 357, n.4 (D.C. Fla. 1975). A special contract is an agreement entered into between a utility and a customer based on individually negotiated terms. Boston Gas Company, D.P.U. 92-259, at 40 (1993). Tariffs have advantages over special contracts in that tariffs: (1) are available to

all qualified customers without preference;[19] and (2) can be administered more efficiently by the Department due to their uniformity.

The Interconnection Service Agreement provides that it is "entered into pursuant to the [Model] Interconnection Tariff" (Model Interconnection Tariff at 54, ¶ 20). Any proposed change to a tariff, "together with all forms of contracts thereafter to be used in connection therewith" must be approved by the Department. G.L. c. 164, § 94. The Interconnection Service Agreement is a form of contract used in connection with the Model Interconnection Tariff. Thus, the Interconnection Service Agreement is not an individually negotiated special contract that is separate from the Model Interconnection Tariff. In this particular case, any changes to the Model Interconnection Tariff must be linked to the Interconnection Service Agreement.

One goal of this proceeding is to develop interconnection standards, policies, and procedures for distributed generation interconnection that would be uniformly applicable to all Distribution Companies. D.T.E. 02-38-A at 3-4. Should the Interconnection Service Agreement not be subject to the corresponding tariff in effect at the time, there could be wholly different individual agreements which would be inconsistent with the Department's goal of uniformly applicable standards. If the Model Interconnection Tariff is the controlling document, all customers would then be treated equally.

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[19] See New York, New Haven and Hartford Railroad v. York and Whitney Company, 215 Mass. 36, 39 (1913).

Any entity, including signatories to the Interconnection Service Agreement, has the opportunity to petition the Department to complain, or seek suspension of a proposed tariff. G.L. c. 164, § 94; 220 C.M.R. § 1.04(1)(d). Further, due to the collaborative nature of the development of the Model Interconnection Tariff, stakeholders are likely to have the opportunity to propose, review and discuss any proposed changes, and their effect upon the accompanying Interconnection Service Agreement, before any changes are presented to the Department for approval. Therefore, stakeholders affected by any future changes to the tariff have the opportunity to review the proposed changes, and present their concerns for Department consideration or resolution. 220 C.M.R. § 1.04(1)(d). Finally, any future amendments to the interconnection tariff must not create any technical, economic, and regulatory barriers to DG. See D.T.E. 02-38, at 2; see also Competitive Market Initiatives, D.T.E. 01-54, at 11 (2001); Electric Industry Restructuring, D.P.U./D.T.E. 96-100, at 23 (1998). Accordingly, we conclude that the Model Interconnection Tariff is the controlling document and have modified Paragraph 20 of the Interconnection Service Agreement pursuant to our determination:

> In the event of a conflict between this Agreement, the Interconnection Tariff, or the terms of any other tariff, Exhibit or Attachment incorporated by reference, the terms of the Interconnection Tariff, as the same may be amended from time to time, shall control. In the event that the Company files a revised tariff related to interconnection for Department approval after the effective date of this Agreement, the Company shall, not later than the date of such filing, notify the signatories of this Agreement and provide them a copy of said filing.

(see Model Interconnection Tariff at 54, Exh. A ¶ 20 (Interconnection Service Agreement)).

3. Timelines

a. Model Interconnection Tariff

There are three review paths for interconnecting facilities - Simplified, Expedited, and Standard with accompanying timelines (Model Interconnection Tariff at 7; Report at 9). The Model Interconnection Tariff provides for 40 to 60 business days for the Expedited Process, and 125 to 150 business days for the Standard Process (Model Interconnection Tariff at 7,11, 18). RealEnergy dissented from the Collaborative's language in the tariff with respect to the timelines for the Expedited and Standard Processes, and proposed alternative language in the Model Interconnection Tariff, representing RealEnergy's own position (Model Interconnection Tariff at 11, 18).

> The maximum time allowed for the Company to execute the entire Expedited Process on a radial system is 40 days [***RealEnergy (RE) proposal:*** 25 days] where no Supplemental Review is needed and 60 days [***RE*** 40 days] where it is needed. The maximum time allowed for the Company to execute the entire Standard process is 125 days [***RE*** 65 days] for the Standard Review process if the Customer goes directly to Standard Review and 180 days[20] [**RE** 80] if the Customer goes from the Expedited process into Standard Review.

(Model Interconnection Tariff at 11, ¶ 3.4).[21]

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[20] The Department notes that this specific quote from the Model Interconnection Tariff at 11, contains a typographic error, in that the maximum number of days for the Standard Process is actually 150 days, as presented in the Report and in other references from the Model Interconnection Tariff (see Report at 6, 15, 17 and Model Interconnection Tariff at 18, 20).

[21] The Collaborative also indicates the differences in the timelines for the review paths in Table 1 of the Model Interconnection Tariff (Model Interconnection Tariff at 18).

The Collaborative has proposed that the timelines and their efficacy would be subject to review and revision, and proposes to report back to the Department with further refinements and improvements (Collaborative March 3, 2003 Letter).

b. Comments

The Distribution Companies recommend that the Department adopt the timelines as set out in the Model Interconnection Tariff (MECo at 2; WMECo at 7; Fitchburg at 2; NSTAR at 11). The Distribution Companies point out that the recommended timelines are the results of a collaborative process that involved "give and take" on numerous issues, of which the timelines are but one aspect (Fitchburg at 3; MECo at 2; NSTAR at 10). WMECo, NSTAR and Fitchburg acknowledge that as experience is gained over time, and as the procedures are reviewed by the Collaborative over the next two years, it is recognized that these initial timeframes may be revised (WMECo at 7; NSTAR at 10; Fitchburg at 3).

KeySpan recommends that the Model Interconnection Tariff and Report should be adopted, contributing to fewer barriers and disincentives for DG interconnection (KeySpan at 1). UTC states that the proposed timelines are conservative, especially in comparison to other jurisdictions with similar approaches, such as California where the corresponding process allows for a 30-day maximum (UTC at 2). However, UTC states that it offers its support for the timelines at this juncture due to the agreement for an on-going collaborative review of the interconnection process (UTC at 3). NEMA recommends that the Department adopt the standard application process; however, it submits that RealEnergy's proposed timelines are more consistent with the timelines established in other states, and urges

the Department to establish timelines that more appropriately encourage investment in DG (NEMA at 2, 3, 4).

The RE Group and MeadWestvaco argue that the timelines are too long and contravene the Department's interest in removing unnecessary barriers to interconnection (RE Group at 8; MeadWestvaco at 1-2). The RE Group points out that the Model Interconnection Tariff timelines were created to accommodate the worst case scenario which led to overly conservative dates that are unreasonable and unfair (RE Group at 8).[22] The RE Group asserts that RealEnergy's proposed timelines are consistent with those developed by other states, as well as the current QF Regulations (RE Group at 7). The RE Group argues that the QF Regulations require interconnection within 90 calendar days (13 weeks) absent an extension from the Department; however, the Model Interconnection Tariff allows up to 150 business days (33 weeks) for the Standard Process (RE Group at 10). MeadWestvaco states that the proposed timelines for the Standard Process represent a 50 percent increase over the QF Regulations, which is directly related to the use of "business days" in the Model Interconnection Tariff versus "calendar days" in the QF Regulations (MeadWestvaco at 10).

Further, MeadWestvaco points out that the Model Interconnection Tariff timelines are significantly longer than the schedule proposed by the Small Generator Coalition in the consensus document submitted to the Federal Energy Regulatory Commission ("FERC") in the

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[22] The RE Group and MeadWestvaco note that the timelines in the Model Interconnection Tariff far exceed the number of hours that are necessary to complete the required work (RE Group at 7; MeadWestvaco at 11).

Advanced Notice of Proposed Rulemaking in November 2002 (MeadWestvaco at 11).[23] The RE Group argues that RealEnergy's counter proposal includes the recommendation that Distribution Companies be allowed to petition the Department for extensions of time due to extensive modifications or additions to the transmission or distribution system necessary to accommodate the interconnection (RE Group at 6). MeadWestvaco recommends that the Department either adopt the RealEnergy timeline proposal for Standard Process, or require that the timelines be designated in calendar days, not business days (MeadWestvaco at 12).

c. Analysis and Findings

Some commenters have objected to the timelines in the Model Interconnection Tariff on the grounds that they are longer than those proposed in other states, and longer than those in the QF Regulations. One of the goals of this proceeding is to develop interconnection standards and practices that do not present undue barriers to the installation of DG to distribution facilities. Distributed Generation NOI, D.T.E. 02-38, at 2 (2002).

In D.T.E. 99-38, the Department amended its QF Regulations to conform with changes brought about by Chapter 164 of the Acts of 1997, entitled, "An Act Relative to Restructuring the Electric Utility Industry in the Commonwealth, Regulating the Provision of Electricity and Other Services, and Promoting Enhanced Consumer Protection Therein" ("Restructuring Act"). In particular, the Restructuring Act introduced retail choice for generation products, thereby prohibiting Massachusetts electric utilities from providing

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[23] Standardization of Small Generator Interconnection Agreements and Procedures Advance Notice of Proposed Rulemaking, Docket No. RM02-12-000.

generation services to their retail customers on a monopoly basis. G.L. c. 164, § 1A; see D.T.E. 99-38, at 2-5; Qualifying Facilities Rulemaking, D.P.U. 84-276-B (1986). In revising the QF Regulations, the Department noted that

> As electric industry restructuring progresses, many matters may surface related to the emergence of non-traditional generating technologies, such as small-scale generation that interconnects to the distribution system rather than the transmission system. These issues are beyond the scope of this proceeding. As such matters arise, the Department will consider appropriate regulatory action.

D.T.E. 99-38, at 5 n.4 (1999).

This investigation concerns solely the interconnection of DG facilities to the distribution system (see n.1, above). The "regulatory action" that the Department has taken so far is to direct electric Distribution Companies to form a collaborative, and to propose uniform interconnection standards, policies, and procedures that would be uniformly applicable to all Distribution Companies. Distributed Generation, D.T.E. 02-38-A at 4-6 (2002). This includes proposing a time schedule for responding to interconnection applications by distributed generators. Id. at 5.

The timelines found in the QF Regulations are not as definitive as those in the Model Interconnection Tariff because, among other things, the QF Regulations expressly provide for extensions of time. 220 C.M.R. §§ 8.04(6)(a) (distribution company may petition for additional time to perform extensive modifications to distribution or transmission system for QFs); 8.03(1)(c) (when a distribution company fails to respond to initial QF offer to sell output, QF may petition Department); 220 C.M.R. § 8.04(3) (upon failure to agree on

interconnection cost estimate, QF may petition Department). Unlike the QF Regulations, the Model Interconnection Tariff prescribes "maximum timeframes for the Simplified, Expedited and Standard Review processes" and prescribes specific time requirements for a dispute resolution process (Model Interconnection Tariff at 11-18, 42-44, §§ 3.4, 9). Finally, we recognize that the Model Interconnection Tariff was the result of a collaborative process, where compromise on this, or any other issue, may be linked to resolution of other issues.

In consideration of the facts that: (1) the timelines are clearly defined with prescribed deadlines; and (2) the Collaborative agrees that these timelines are subject to review and revision, we find that the proposed timelines are consistent with the public interest. Accordingly, the Department accepts the Model Interconnection Tariff timelines as proposed by the Collaborative, subject to continuing collaborative review and potential revision should the timelines, in fact, represent an undue barrier to DG facilities interconnecting to distribution facilities.

Thus, the Model Interconnection Tariff at 11, ¶ 3.4 should read

> The maximum time allowed for the Company to execute the entire Expedited Process on a radial system is 40 days where no Supplemental Review is needed and 60 days where it is needed. The maximum time allowed for the Company to execute the entire Standard Process is 125 days for the Standard Process if the Customer goes directly to the Standard Process and 150 days if the Customer goes from the Expedited Process into the Standard Process.

The timelines proposed by the Collaborative shall also be incorporated into the time requirements stated on Table 1 of the Model Interconnection Tariff (Model Interconnection Tariff at 18).

D. Other Issues

1. Fees

a. Comments

In its comments, NEMA recommends that in order to encourage DG, the Massachusetts fee should be capped at an amount consistent with California, which is $1,400, versus the maximum of $2,500 in the proposed Model Interconnection Tariff (NEMA at 3). In addition, NEMA states that to encourage net metering, similar to California, the Model Interconnection Tariff should include a fee exemption for net-metered customers (NEMA at 3). MeadWestvaco asserts that the application fee is an additional burden, is not justified, and points out that the QF Regulations do not include an application fee (MeadWestvaco at 6-7, 10). However, MeadWestvaco notes that if an application fee is required, it should be part of a "not-to-exceed" price for all interconnection process costs (id. at 10).

b. Analysis and Findings

Both the Model Interconnection Tariff and the QF Regulations have no express fees for "initial inspection." See 220 C.M.R. § 8.04 (2) (initial inspection made at Distribution Company's expense). The QF Regulations provide that if the Distribution Company cannot determine interconnection costs after the initial site inspection, the Distribution Company must

> provide a complete estimate of interconnection costs upon request by the Qualifying Facility or On-Site Generating Facility. The cost of providing this estimate, including engineering studies where necessary, shall be paid by the Qualifying Facility or On-Site Generating Facility to the Distribution Company.

220 C.M.R. § 8.04(3).

The Model Interconnection Tariff, in contrast to the QF Regulations, prescribes specific fees that would allow DG providers to anticipate costs and incorporate them into their business plan (Model Interconnection Tariff at 19, Table 2; see Section II.B., above). Because the Collaborative has agreed upon these fees, and has agreed that they are subject to review and revision, the Department finds that the proposed fees are consistent with the public interest. Accordingly, the Department accepts the Model Interconnection Tariff language on fees, subject to continuing collaborative review and revision should the fees, in fact, be determined to present an undue barrier to DG facilities interconnecting to distribution facilities.

2. Meter Ownership

a. Comments

With regard to meter ownership, Fitchburg, WMECo and MECo concur that this docket is not the proper forum for this issue (Fitchburg at 5; MECo at 5; WMECo at 8). NSTAR states that revenue meters should be owned solely by the Distribution Companies due to safety and reliability concerns, and to technical issues identified by the Department in Model Terms and Conditions, D.T.E. 97-65 (1997) (NSTAR at 16).[24] NSTAR cites D.T.E. 97-65 as requiring that meter ownership remain with the distribution company until such time

[24] NSTAR notes that the Department concluded that ". . . unresolved technical issues include a certification process for the meter, standards for the metering, communication standards and protocols . . . ." (NSTAR at 16, citing D.T.E. 97-65, at 60).

as the issues are resolved, and NSTAR asserts that such issues are still outstanding (NSTAR at 15-16).

MeadWestvaco asserts that QF customers should continue to have the right to own their own meter, as is allowed under 220 C.M.R. § 8.04, and along the same line, Standard Process applicants should also be allowed to own their meters (MeadWestvaco at 19). In general, NEMA concludes that competitive, non-utility suppliers should be permitted to provide products, services, information and technologies in order to open the provision of DG to competition (NEMA at 6-7).

b. Analysis and Findings

The Collaborative stated that there was not complete agreement regarding meter ownership (Model Interconnection Tariff at iii). Consistent with existing Department regulations, the Model Interconnection Tariff provides for distribution company ownership of the meter unless a generating facility is a QF or an on-site generating facility (Model Interconnection Tariff at 39, citing 220 C.M.R. § 8.00 et seq.).

A QF or an on-site generating facility may elect to own the meter used to measure its generation output. See 220 C.M.R. §§ 8.04(8). The Department has not extended this option beyond the scope already established for QFs and on-site generating facilities. Metering, Billing and Information Systems, D.T.E. 01-28 (Phase I) at 4,7,11 (2001); Advanced Metering, D.T.E. 00-41, at 18 (2000). At this time, the record is insufficient in this proceeding for the Department to reach a conclusion on meter ownership as it relates to DG.

As noted in Section II.D.6.b , below, the Department requests that the collaborative continue to consider the issue of meter ownership by distributed generators.

3. Insurance

a. Comments

On the issue of insurance requirements, Fitchburg recommends that the second paragraph of Section 11.2, "Insurer Requirements and Endorsements" be deleted because this provision may increase risk exposure to distribution companies and could increase the cost of service and associated distribution rates to the remaining distribution customers (Fitchburg at 5) (Model Interconnection Tariff at 51, (Interconnection Service Agreement). AES argues that it is inappropriate to require a 100 KW generator, and, in particular, an induction generator to carry the same level of insurance as a 1 MW generator (AES at 2).

b. Analysis and Findings

The Model Interconnection Tariff sets forth the requirement that all facilities greater than or equal to ten KW must maintain general liability insurance for the term of the interconnection agreement (Interconnection Service Agreement at ¶ 11.1).[25] The Model

[25] Section 11.1 of the Model Interconnection Tariff sets out the dollar amount of insurance that a facility must obtain as based on the following size ranges: greater than ten KW and less than or equal to 100 KW; greater than 100 KW and less than or equal to 1 MW; greater than one MW and less than or equal to five MW; and greater than five MW (see also Interconnection Service Agreement, ¶ 11.1). If a customer is self-insured, it may provide evidence of such coverage based on the amounts set forth in Section 11.1 (Model Interconnection Tariff, § 11.4; Interconnection Service Agreement, § 11.4).

Interconnection Tariff lays out insurer requirements and endorsements, and notes that the interconnecting customer is responsible for providing evidence of insurance (id. at ¶ 11.3).

The Department finds that it is appropriate for the interconnecting customer to maintain general insurance coverage to manage risks for loss, damage and liability. The Department further finds that a distinction in the requirement for insurance coverage on the size of the DG facility is appropriate. The agreed-upon insurance provisions are reasonable, and are subject to review and revision. Accordingly, the Department finds that the proposed insurance provisions are consistent with the public interest. The Department accepts the Model Interconnection Tariff language on insurance provisions, subject to continuing collaborative review and revision should the insurance provisions, in fact, be determined to present an undue barrier to DG facilities interconnecting to distribution facilities.

4. Disconnect Switch

a. Comments

AES argues that the requirements relating to the disconnect switch are an impediment to induction generators (AES at 2). AES further points out that there is no danger from work on an induction generator, claiming that is why the utilities have not required accessible disconnect switches for induction generators (id.). IREC asserts that the language in the proposed Model Interconnection Tariff regarding the external disconnect switch ("EDS") should not allow the utility discretion as to when the EDS is required (IREC at 1). IREC explains that the cost of an EDS, especially when the utility is allowed to designate the

location, can be substantial (id. at 2). IREC recommends that the need for an EDS be installed for safety reasons only (id. at 1).

b. Analysis and Findings

With regards to the EDS requirement, the Model Interconnection Tariff states that

> **External Disconnect Switch:** For qualified inverters, the Company **may** require an external disconnect switch (or comparable device by mutual agreement of the Parties) at the [point of common coupling] with the Company or at another mutually agreeable point that is accessible to Company personnel at all times and that can be opened for isolation if the switch is required . . . .

(Model Interconnection Tariff at 27, ¶ 4.2.4.1.b).

The EDS allows isolation of the distributed generator from the rest of the system for safe and efficient work conditions. Use of an EDS is consistent with the requirements of the Institute of Electrical and Electronics Engineers ("IEEE"), IEEE1547, "Standards for Interconnection Distributed Resources with Electric Power Systems" and IEEE Standard 929-2000 "IEEE Recommended Practice for Utility Interface of Photovoltaic Systems" (see Model Interconnection Tariff at 1, 22 ¶ 4.2.1). Further, the Model Interconnection Tariff does not require an EDS, but instead provides for discretion and flexibility by the Distribution Company. We find that the requirement for the use of an isolating device, in these circumstances, is a reasonable safety measure. The Department finds that the Model Interconnection Tariff's provisions on use of the EDS are consistent with the development of interconnection standards and practices that do not threaten the reliability or safety of existing distribution systems and, are therefore, in the public interest. D.T.E. 02-38, at 2. Accordingly, the Department accepts the Model Interconnection Tariff language on

provisions on the use of the EDS, subject to continuing collaborative review and revision should the provisions on the use of the EDS, in fact, be determined to present an undue barrier to DG facilities interconnecting to distribution facilities.

In conclusion, the Department allows the Model Interconnection Tariff subject to the conditions stated in Sections II.C.1.c, II.C.2.c, and II.C.3.c, above. We address below the applicability of the Model Interconnection Tariff to the QF Regulations and the Collaborative's procedural recommendations.

5. Applicability to QF Regulations

a. Comments

The Collaborative asserts that the Report was not intended to replace or change the Department's QF Regulations (Collaborative March 3, 2003 Letter). However, the Collaborative later stated that there remained disagreement as to the consistency and the inter-relationship between the Model Interconnection Tariff and the existing QF Regulations (Model Interconnection Tariff at ii, 11, 18). Therefore, the Collaborative requested clarification as to the applicability of the Model Interconnection Tariff to the Department's QF Regulations (Collaborative May 15, 2003 Letter).

The Distribution Companies state that the Department should adopt the consensus conditions, procedures, standards and timelines as set forth in the Model Interconnection Tariff, and they should replace 220 C.M.R. § 8.04, where applicable (MECo at 3; NSTAR at 14; WMECo at 2-3; Fitchburg at 3). NSTAR asserts that having two sets of regulations

governing interconnection policies and procedures would lead to confusion and opportunities for gaming (NSTAR at 14). WMECo states that it would be contrary to the collaborative effort to have one set of rules for DGs that are QFs and another for those that are not QFs (WMECo at 3). NSTAR and WMECo note that an alternative approach would be for the Department to open a separate rulemaking docket, in order to address inconsistencies between the regulations (NSTAR at 14; WMECo at 3).

The RE Group asserts that the Department should make it clear that where the terms of the Model Interconnection Tariff and the QF Regulations conflict, the terms of the QF Regulations should still apply to QFs and on-site generating facilities (RE Group at 9). The RE Group point out that the Report is silent on the issue of QFs because they were not considered separately, and that the Collaborative participants agreed that the Model Interconnection Tariff was not intended to change or replace the QF Regulations (RE Group at 9). Finally, the RE Group argue that the whole point of the sentence in the cover letter to the Model Interconnection Tariff was that it was not intended to replace the QF Regulations (RE Group at 15). UTC concurs that the Model Interconnection Tariff standards should not replace exiting QF Regulations, and, in fact, such an action would be a step backward (UTC at 4).

b. Analysis and Findings

QFs are a class of generating facilities established by the Public Utility Regulatory Polices Act of 1978 ("PURPA").[26] See 18 C.F.R. §§ 292.101 et seq. On-site generating facilities are defined in the Restructuring Act as 60 KW or below, and are eligible for net metering. G.L. c. 164, § 1G(g)(iii); 220 C.M.R. § 8.02. Department regulations provide rules for: (a) the interconnection of QFs and on-site generating facilities to Distribution Company systems; (b) the metering of QFs and on-site generating facilities; and (c) the payment to QFs and on-site generating facilities. 220 C.M.R. § 8.04.

The notice to this proceeding made no mention of a rulemaking amending the QF Regulations pursuant to G.L. c. 30A or 220 C.M.R. §§ 2.00 et seq. The Department notes the special status accorded to QFs under PURPA, and the Department's past initiatives focused on QF issues, pursuant to the requirements of PURPA. D.T.E. 99-38 (1999); QF Rulemaking, D.P.U. 84-276-B (1986). In light of the fact that the Model Interconnection Tariff is subject to further review and revision, the Department finds that it is inappropriate for the Department to revise its QF Regulations at this time. Moreover, Department regulations provide that the

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[26] PURPA was enacted by Congress, in part, in an effort to remove institutional and regulatory barriers faced by developers of cogeneration and small power production. See 16 U.S.C. § 824a-3(a). Electric utilities are required to purchase electricity produced by QFs, and the rates associated with such purchases must be: (1) just and reasonable to the electric consumers of the purchasing utility; (2) in the public interest; (3) nondiscriminatory to QFs; and (4) must not exceed the incremental costs of alternative electric energy, i.e., the costs of energy to the utility, which, but for the purchase, the utility would generate itself or purchase from another source. 16 U.S.C. § 824a-3(d); 18 CFR § 292.101(b)(6).

filing of a tariff in compliance with this proceeding "shall not be considered the adoption of a regulation under 220 C.M.R. § 2.00 et seq." 220 C.M.R. § 5.02(2). Thus, any Distribution Company tariff for interconnecting distributed generation to Distribution Companies filed in compliance with any Order will not replace or change the Department's QF Regulations.

6. Implementing the Model Interconnection Tariff

a. Collaborative Request

As noted in Section II.B. above, the Collaborative recommended that the Department issue an Interim Order approving the Report and Model Interconnection Tariff, and authorize the Collaborative to undertake a two-year review process (Report at 2, 25-27; Collaborative May 15, 2003 Letter).

b. Analysis and Findings

The Collaborative's request to continue to meet over two years would provide stakeholders and Distribution Companies an opportunity to further assess the efficiency and effectiveness of the Model Interconnection Tariff and to develop final interconnection standards that do not unduly inhibit the installation of DG, while recognizing legitimate safety and reliability concerns of Distribution Companies. This process could foster informed communication and understanding among DG providers, customers and Distribution Companies. The Department concludes that continued meetings of the Distributed Generation Collaborative to further refine DG interconnection standards and procedures is in the public interest.

As noted above, the record is not sufficient for the Department to resolve the issue of meter ownership by distributed generators. The Department requests that the Distributed Generation Collaborative continue to consider the issue of meter ownership by distributed generators, and how the issue of meter ownership for distributed generators has been treated in other jurisdictions. The Department requests that recommendations on this issue be included in the Collaborative's annual report, with adequate supporting documentation.

Accordingly, as of the date of this Order, the Department directs the Distribution Companies to support the Distributed Generation Collaborative, and authorizes a two-year ongoing collaborative process, consistent with the Collaborative's proposals in section two ("Goals and On-Going Collaborative") and section six ("On-Going Collaboration and Information Tracking") of the Report at 8, 29-32, and the March 3, 2003 and May 15, 2003 Collaborative letters to the Department. Further, pursuant to G.L. c. 164, § 94 and 220 C.M.R. § 5.00 et seq., Distribution Companies shall, no later than fourteen days following the issuance of this Order, file conforming Interconnection Standards Tariffs consistent with the Model Interconnection Standard Tariff attached to this Order.

III. ISSUES NOT ADDRESSED IN THE REPORT AND MODEL TARIFF

A. Introduction

In D.T.E. 02-38, at 2 (Order Opening Investigation), the Department requested comments on two issues separate from the standardized interconnection procedures that were addressed by the Collaborative in the Report and Model Interconnection Tariff: (1) the

appropriate method for the calculation of backup rates and other charges associated with the installation of DG; and (2) the appropriate role of DG in distribution company resource planning.[27] Initial comments were filed on August 1, 2002, and reply comments were filed on August 15, 2002. The Department conducted a public hearing on August 21, 2002.[28]

B. Standby and Backup Rates

1. Comments

The Distribution Companies commented that backup rates are not likely to be resolved through a collaborative effort, and that the Department should make a determination on the appropriate structure of backup rates (Aug. 21, 2002 Tr. at 68). NSTAR states that the role for the Department is to define the basics of what cost-based rates mean (id.). MECo stated that a DG customer who requests instant-on reliability should be assessed a full cost-based distribution rate for its total distribution service (MECo at 15). WMECo claims that contract or peak demand charges, fixed monthly access charges and customer charges, rather than volumetric rates, are the appropriate method for recovery of delivery service costs for DG (WMECo at 8-9).

UTC comments that backup charges should be structured to reflect cost causation as well as the contribution made by DG toward system cost reduction (UTC at 5). Real Energy

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[27] In this section, all citations to comments refer to those submitted on August 1 and August 15, 2002. For a list of the commenters see, D.T.E. 02-38-A at 1, n.1.

[28] Commenters raised other issues (e.g., environmental impact of DG) that the Department will address later in this proceeding.

states that the appropriate method for the calculation of backup rates should focus on a variable-usage charge, with a zero or nominal fixed capacity cost component (Real Energy at 13). The Union of Concerned Scientists, Conservation Law Foundation, Massachusetts Energy Consumers Alliance, Massachusetts Public Interest Research Group, Clean Water Action, and the Environmental League of Massachusetts (together, "UCS Group") suggest that only "revenue-cap regulation" would break the link between sales volume and company revenues (UCS Group at 15-16). The UCS Group explains that under revenue-cap regulation, prices would be adjusted each year based on the distribution company's actual revenues (id.).

2. Analysis and Findings

On January 16, 2004, Boston Edison Company, Cambridge Electric Light Company, and Commonwealth Electric Company, d/b/a NSTAR Electric ("NSTAR Electric") filed for approval by the Department, tariffs designed to establish standby rates for large and medium-sized commercial and industrial customers who have their own on-site, self-generation facilities. This proceeding was docketed as NSTAR Electric, D.T.E. 03-121. On January 20, 2004, the Department issued a Notice of Public Hearing and Procedural Conference, in which we stated that we would investigate the proposed tariffs to ensure that NSTAR Electric used an appropriate method for the calculation of standby rates associated with the installation of on-site, self generation facilities.

Comments in the instant proceeding raise a number of issues that the Department will address in NSTAR Electric's tariff, including but not limited to, whether: (1) a distribution

company should recover its costs through fixed or variable charges; (2) standby rates should reflect embedded or incremental costs; and (3) a distribution company should offer firm and non-firm standby service.

C. The Role of DG in Distribution Company Planning

1. Comments

NSTAR states that it incorporates DG alternatives into its planning process where there is potential for such technologies to represent a cost-effective alternative to distribution system investments (NSTAR at 13-14). MECo states that the principal role for distributed generation in distribution system planning is to allow the utility to cost-effectively defer or reduce investment in local distribution system facilities (MECo Comments at 20). MECo notes that while it does not currently consider distributed generation in its own planning process, utilities could provide distributed generation developers with system information such that a mutually beneficial outcome may result (id. at 27). Finally, MECo notes that other distributed resources, such as demand-response initiatives, may provide a means to defer or reduce investment in local distribution facilities (id. at 29, citing, Massachusetts Electric Company, D.T.E. 03-53(2003) (Targeted Demand Response Program). WMECo states that Northeast Utilities ("NU"), its parent company, has: (1) established a "solar avenue" program in WMECo's service territory (500-watt solar photovoltaic panels on 30 homes); (2) invested shareholder money in a small DG company with fuel cell technologies and NU intends to be a distributor of these products; and (3) used energy efficiency funds to research DG in WMECo's service territory and in Connecticut (WMECo at 11-12).

In order to facilitate planning, Keyspan states that the Department should consider requiring utilities to analyze DG in lieu of traditional upgrades (Keyspan at 4-5). DOER recommends that distribution companies first identify all system constraints that might be mitigated by DG in terms of reliability constraints, divide them into those that present reliability concerns and those that present congestion concerns, and then issue separate requests for proposals to solicit market proposals for DG projects (DOER at 7). However, DOER cautions that distribution companies should be limited to facilitating DG market proposals and providing technical support, but not owning DG projects (DOER at 6; DOER Reply at 12).

MTC posits that there is no incentive for distribution companies to evaluate DG as a solution to distribution and transmission system performance issues (MTC at 18). MTC concludes that, without an open and transparent distribution planning process, distribution companies are especially likely to miss DG opportunities that may be available on customer premises (MTC at 18).

The UCS Group states that a transparent planning process that permits review and input from a variety of stakeholders should be incorporated into transmission and distribution planning (UCS Group at 12). According to the UCS Group, key steps include: (1) identifying and quantifying scale (megawatt) value, location and time of constraints; (2) defining performance requirements for DG to meet system needs; (3) communicating constraint information and sharing the value of distributed resources with market participants; and (4) providing market participants and pre-screened DG options sufficient opportunity to respond (id. at 13). The UCS Group encourages the use of "locational credits" where the

distribution company would offer payments based upon projected upgrade costs, avoidable costs, outage costs and/or system losses, to provide an incentive for locational installation of DG (id.).

2. Analysis and Findings

In D.T.E. 02-38, at 4, the Department stated that it would investigate, among other things, the "appropriate role of distributed generation in distribution company resource planning," in light of "the potential of distributed generation to defer or postpone costly upgrades and additions to a utility's transmission and distribution system." The Department will consider these issues in its ongoing D.T.E. 02-38 investigation.

Subsequent to the filing of comments on this issue, on April 22, 2003, the Department issued an Order that established an alternative process to the long-range electric forecast review required by G.L. c. 164, § 69I. Order Commencing a Notice of Inquiry and Rulemaking into (1) rescinding 220 C.M.R. §§ 10.00 et seq. and (2) exempting electric companies from any or all of the provisions of G.L. c. 164, § 69I, D.T.E. 98-84 (2003). The Department found that, in order to ensure system reliability while supporting competitive market objectives, a distribution planning process should identify the need for new resources or system reinforcements several years in advance to allow for the changes in conditions that may reveal different solutions (whether demand-side resources, distributed generation, or a newly available technological solution). Id. at 12. The Department determined that, as part of the alternative process to G.L. c. 164, § 69I, distribution companies must file two reports: (1) an annual planning report, to be filed by investor-owned electric companies, which focuses

on the management of their distribution systems; and (2) an annual listing by the same companies of all transmission projects planned to be built within, or partially within, their service territories ("Planning Reports"). D.T.E. 98-84, at 24-28. The Department reserved its right to clarify the scope and level of detail required in the Planning Reports. Id. at 25.

As stated above, the Department appreciates the comprehensive effort undertaken by the Collaborative in developing the Model Interconnection Tariff and Report. The Department is interested in exploring whether the Collaborative could, initially, consider the role of DG in distribution company planning. The Department requests that recommendations on this issue be included in the Collaborative's annual report, with adequate supporting documentation.

IV. ORDER

Accordingly, after due notice, hearing, and consideration the Department

ORDERS: That the Tariff to Accompany Proposed Uniform Standards for Interconnecting Distributed Generation in Massachusetts, filed May 15, 2003, as amended by this Order, be and hereby is approved; and it is

FURTHER ORDERED: That no later than fourteen days following the issuance of this Order, Boston Edison Company, Cambridge Electric Light Company, Commonwealth Electric Company, Fitchburg Gas and Electric Light Company, Massachusetts Electric Company and Nantucket Electric Company, and Western Massachusetts Electric Company shall submit individual Interconnection Standards Tariffs consistent with this Order; and it is

FURTHER ORDERED: That Boston Edison Company, Cambridge Electric Light Company, Commonwealth Electric Company, Fitchburg Gas and Electric Light Company, Massachusetts Electric Company and Nantucket Electric Company, and Western Massachusetts Electric Company shall comply with all directives contained in this Order.

By Order of the Department,

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Paul G. Afonso, Chairman

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James Connelly, Commissioner

_____

W. Robert Keating, Commissioner

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Eugene J. Sullivan, Jr., Commissioner

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Deirdre K. Manning, Commissioner